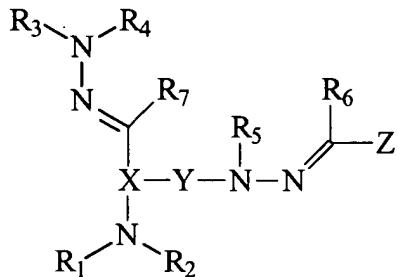


CLAIMS

What is claimed is:

1. An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the
5 photoconductive element comprising:

- (a) a charge transport material having the formula



where R₁, R₂, R₃, R₄, and R₅ are, independently, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

10 R₆ and R₇ are, independently, hydrogen, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

Y is a linking group having the formula -(CH₂)_m-, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group,
15 urethane, urea, an ester group, an NR₈ group, a CHR₉ group, or a CR₁₀R₁₁ group where R₈, R₉, R₁₀, and R₁₁ are, independently, H, hydroxyl group, thiol group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group;

X comprises an aromatic group; and

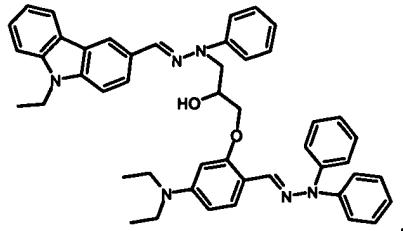
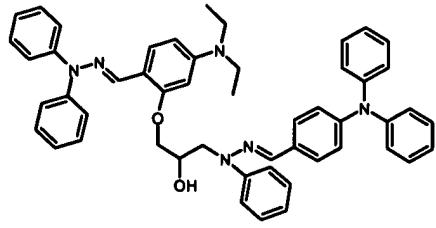
Z comprises an arylamine group; and

20 (b) a charge generating compound.

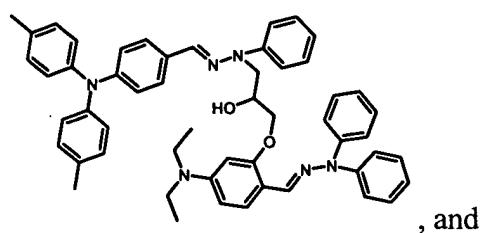
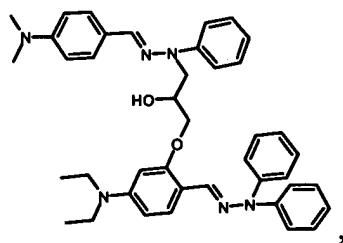
2. An organophotoreceptor according to claim 1 wherein Z comprises a carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

25 3. An organophotoreceptor according to claim 1 wherein X comprises an aryl group.

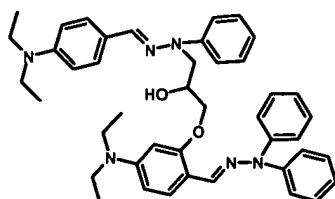
4. An organophotoreceptor according to claim 1 wherein the charge transport material has a formula selected from the group consisting of the following:



5



, and



10

5. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a second charge transport material.

6. An organophotoreceptor according to claim 5 wherein the second charge
15 transport material comprises an electron transport compound.

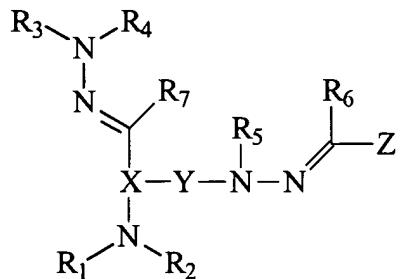
7. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a binder.

20 8. An electrophotographic imaging apparatus comprising:

(a) a light imaging component; and

(b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

- 5 (i) a charge transport material having the formula



where R_1 , R_2 , R_3 , R_4 , and R_5 are, independently, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

10 R_6 and R_7 are, independently, hydrogen, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

Y is a linking group having the formula $-(\text{CH}_2)_m-$, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, an NR_8 group, a CHR_9 group, or a $\text{CR}_{10}\text{R}_{11}$ group where
15 R_8 , R_9 , R_{10} , and R_{11} are, independently, H, hydroxyl group, thiol group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group;

X comprises an aromatic group; and

Z comprises an arylamine group; and

- (ii) a charge generating compound.

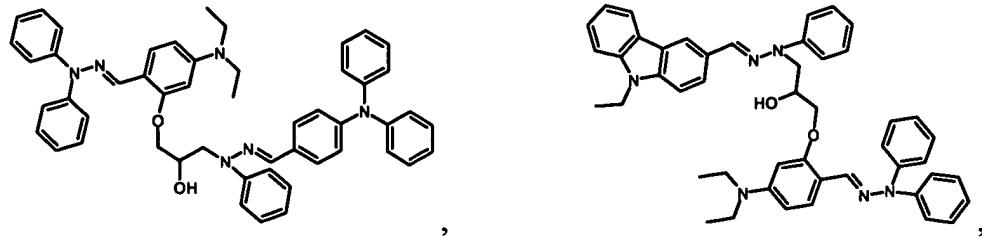
20

9. An electrophotographic imaging apparatus according to claim 8 wherein Z comprises a carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

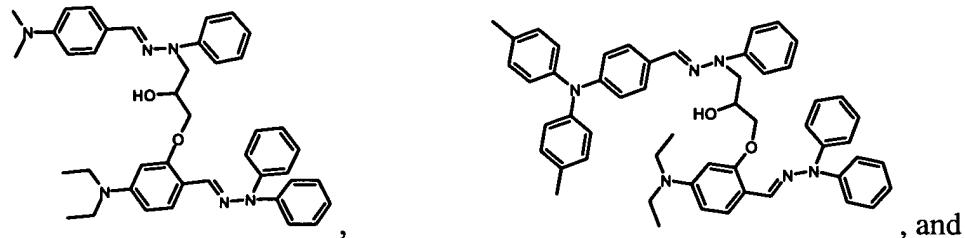
25

10. An electrophotographic imaging apparatus according to claim 8 wherein X comprises an aryl group.

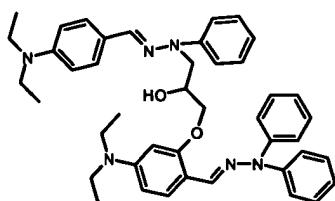
11. An electrophotographic imaging apparatus according to claim 8, wherein the charge transport material has a formula selected from the group consisting of the following:



5



, and



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12. An electrophotographic imaging apparatus according to claim 8 wherein the photoconductive element further comprises a second charge transport material.

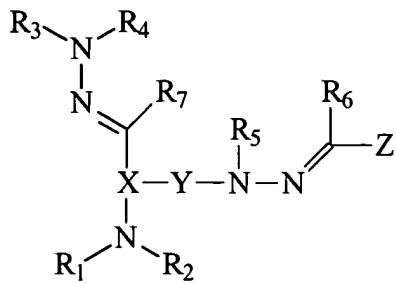
13. An electrophotographic imaging apparatus according to claim 12 wherein
15 second charge transport material comprises an electron transport compound.

14. An electrophotographic imaging apparatus according to claim 8 further comprising a liquid toner dispenser.

20 15. An electrophotographic imaging process comprising;

(a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

(i) a charge transport material having the formula



5

where R₁, R₂, R₃, R₄, and R₅ are, independently, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

R₆ and R₇ are, independently, hydrogen, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

10 Y is a linking group having the formula -(CH₂)_m-, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, an NR₈ group, a CHR₉ group, or a CR₁₀R₁₁ group where R₈, R₉, R₁₀, and R₁₁ are, independently, H, hydroxyl group, thiol group, an alkyl group, 15 an alkaryl group, a heterocyclic group, or an aryl group;

X comprises an aromatic group; and

Z comprises an arylamine group; and

(ii) a charge generating compound.

20 (b) imagewise exposing the surface of the organophotoreceptor to radiation to dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;

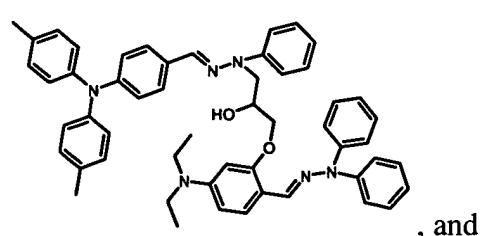
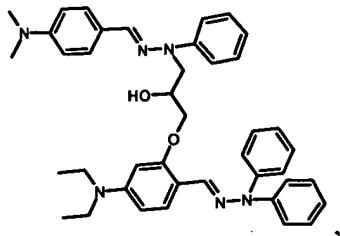
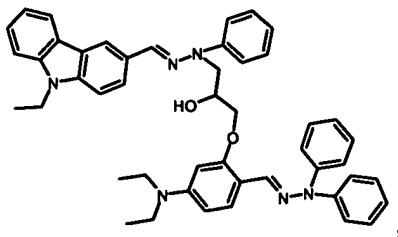
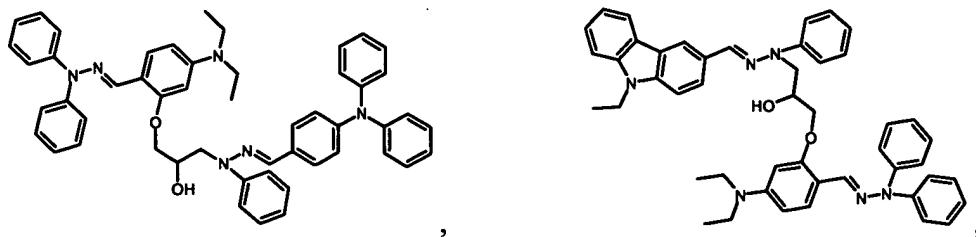
(c) contacting the surface with a toner to create a toned image; and

(d) transferring the toned image to substrate.

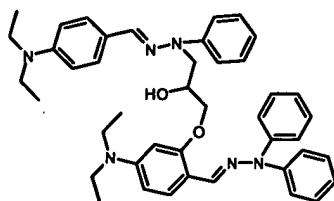
16. An electrophotographic imaging process according to claim 15 wherein Z comprises a carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

5 17. An electrophotographic imaging process according to claim 15 wherein X comprises an aryl group.

10 18. An electrophotographic imaging process according to claim 15 wherein the charge transport material has a formula selected from the group consisting of the following:



, and



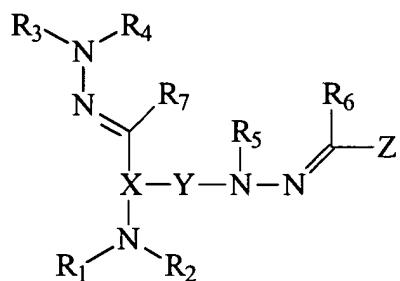
15

19. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a second charge transport material.

20. An electrophotographic imaging process according to claim 19 wherein the second charge transport material comprises an electron transport compound.

21. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a binder.
- 5 22. An electrophotographic imaging process according to claim 15 wherein the toner comprises a liquid toner comprising a dispersion of colorant particles in an organic liquid.

23. A charge transport material having the formula



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where R_1 , R_2 , R_3 , R_4 , and R_5 are, independently, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

R_6 and R_7 are, independently, hydrogen, an alkyl group, an alkaryl group, an aryl group, or a heterocyclic group;

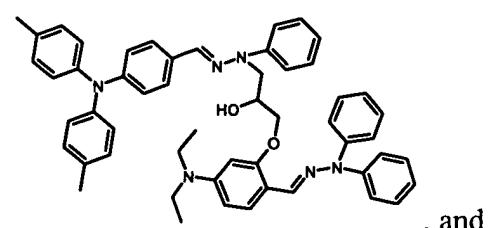
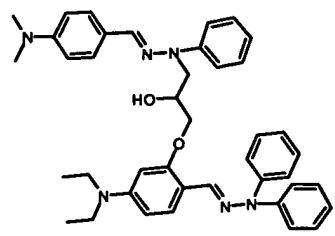
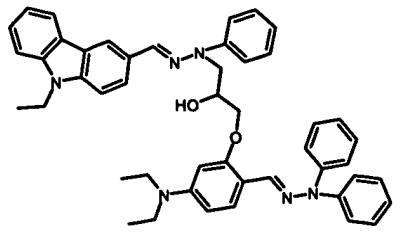
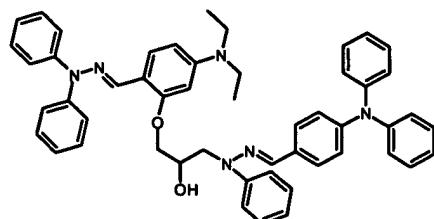
15 Y is a linking group having the formula $-(\text{CH}_2)_m-$, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, an NR₈ group, a CHR₉ group, or a CR₁₀R₁₁ group where R₈, R₉, R₁₀, and R₁₁ are, independently, H, hydroxyl group, thiol group, an alkyl group, 20 an alkaryl group, a heterocyclic group, or an aryl group;

X comprises an aromatic group; and

Z comprises an arylamine group.

24. A charge transport material according to claim 23 wherein Z comprises a 25 carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

25. A charge transport material according to claim 23 wherein X comprises an aryl group.
26. A charge transport material according to claim 23 wherein the charge transport material has a formula selected from the group consisting of the following:



, and

